Amendments to The Claims

The following listing of claims replaces all prior versions and listings of the claims in this application.

Listing of the Claims

1-193. (Cancelled)

194. (Previously presented) A method of producing a heteromeric taste receptor that responds to sweet taste stimuli comprising:

expressing at least one T1R2 nucleic acid sequence and at least one T1R3 nucleic acid sequence in a recombinant host cell under conditions which result in a heteromeric taste receptor comprising at least one T1R2 and T1R3 polypeptide that responds to sweet taste stimuli, wherein said T1R2 is a T1R2 polypeptide and is (i) encoded by a nucleic acid sequence comprising SEQ. ID. NO: 10, (ii) encoded by a nucleic acid sequence comprising a nucleic acid that hybridizes to SEQ. ID. NO: 10 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, and 1% SDS and washing at 65°C in a solution comprising 0.2X SSC and 0.1% SDS, or (iii) a T1R2 polypeptide possessing at least 90% sequence identity to the T1R2 polypeptide of SEQ. ID. NO: 6;

and wherein said T1R3 is a T1R3 polypeptide and is (i) encoded by a nucleic acid sequence comprising SEQ. ID. NO: 9 or SEQ. ID. NO: 11; (ii) encoded by a nucleic acid sequence that hybridizes to SEQ. ID. NO: 9 or SEQ. ID. NO: 11 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, 10% SDS; and washing at 65°C in a solution comprising 0.2X SCC and 0.1% SDS, or (iii) a T1R3 polypeptide possessing at least 90% sequence identity to the T1R3 polypeptide of SEQ. ID. NO: 4 or SEQ. ID. NO: 7.

195. (Previously presented) The method of claim 194, wherein said T1R2 polypeptide is selected from the group consisting rat T1R2, mouse T1R2 and human T1R2 and said T1R3 is selected from the group consisting of rat T1R3, mouse T1R3 and human T1R3.

196. (Previously presented) The method of claim 195, wherein said T1R2 and T1R3 are of the same species origin.

197. (Previously presented) The method of claim 195, wherein said T1R2 and T1R3 are of different species origin.

198. (Previously presented) The method of claim 194, wherein said T1R2 is a human T1R2 polypeptide comprising the amino acid sequence of SEQ. ID. No: 6.

199. (Previously presented) The method of claim 194, wherein said T1R2 is a human T1R2 polypeptide that exhibits at least 90% sequence identity to the polypeptide of SEQ. ID. NO: 6.

200. (Previously presented) The method of claim 194, wherein said T1R2 is a human T1R2 polypeptide that exhibits at least 95% sequence identity to the polypeptide of SEQ. ID. NO: 6.

201. (Previously presented) The method of claim 194, wherein said T1R2 is a human T1R2 polypeptide that exhibits at least 96% sequence identity to the polypeptide of SEQ. ID. NO: 6.

202. (Previously presented) The method of claim 194, wherein said T1R2 is a human T1R2 polypeptide that exhibits at least 97% sequence identity to the polypeptide of SEQ. ID. NO: 6.

203. (Previously presented) The method of claim 194, wherein said T1R2 is a human T1R2 polypeptide that exhibits at least 98% sequence identity to the polypeptide of SEQ. ID. NO: 6.

204. (Previously presented) The method of claim 194, wherein said T1R2 is a human T1R2 polypeptide that exhibits at least 99% sequence identity to the polypeptide of SEQ. ID. NO: 6.

205. (Previously presented) The method of claim 194, wherein said T1R2 is encoded by the nucleic acid sequence of SEQ. ID. NO: 10.

206. (Previously presented) The method of claim 194, wherein said T1R2 is encoded by a nucleic acid sequence that hybridizes to SEQ. ID. NO: 10 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, and 1% SDS and washing at 65°C in a solution comprising 0.2X SSC and 0.1% SDS.

207. (Canceled)

208. (Canceled)

209. (Previously presented) The method of claim 194, wherein said T1R3 is a human T1R3 polypeptide comprising the amino acid sequence of SEQ. ID. NO: 7.

210. (Previously presented) The method of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide that possesses at least 90% sequence identity to the polypeptide of SEQ. ID. NO: 7.

211. (Previously presented) The method of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide that possesses at least 95% sequence identity to the polypeptide of SEQ. ID. NO: 7.

212. (Previously presented) The method of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide that possesses at least 96% sequence identity to the polypeptide of SEQ. ID. NO: 7.

213. (Previously presented) The method of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide that possesses at least 97% sequence identity to the polypeptide of SEQ. ID. NO: 7.

214. (Previously presented) The method of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide that possesses at least 98% sequence identity to the polypeptide of SEQ. ID. NO: 7.

215. (Previously presented) The method of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide that possesses at least 99% sequence identity to the polypeptide of SEQ. ID. NO: 7.

216. (Previously presented) The method of claim 194, wherein said T1R3 is a rat T1R3 polypeptide comprising the sequence of SEQ. ID. NO: 4.

217. (Previously presented) The method of claim 194, wherein the T1R3 polypeptide is encoded by a nucleic acid sequence of SEQ. ID. NO: 9 or SEQ. ID. NO: 11.

218. (Previously presented) The method of claim 194, wherein said T1R3 polypeptide is encoded by a nucleic acid sequence that hybridizes to SEQ. ID. NO: 9 or SEQ. ID. NO: 11 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, and 1% SDS and washing at 65°C in a solution comprising 0.2X SSC and 0.1% SDS.

219. (Previously presented) The method of claim 194, wherein said T1R2 and said T1R3 nucleic acid sequences are each operably linked to a constitutive promoter.

220. (Previously presented) The method of claim 194, wherein, said T1R2 and said T1R3 nucleic acid sequences are each operably linked to an inducible promoter.

221. (Previously presented) The method of claim 194, wherein said T1R2 and T1R3 nucleic acid sequences are expressed in a prokaryotic cell.

222. (Previously presented) The method of claim 194, wherein said T1R2 and T1R3 nucleic acid sequences are expressed in a eukaryotic cell.

223. (Previously presented) The method of claim 222, wherein said cell is a mammalian, yeast, insect or amphibian cell.

224. (Previously presented) The method of claim 222, wherein said cell is a HEK-293 cell, COS cell, CHO cell, or Xenopus ooctye.

225. (Previously presented) The method of claim 224, wherein the cell is a HEK-293 cell.

226. (Previously presented) The method of claim 194, wherein said cell expresses a G protein.

227. (Previously presented) The method of claim 226, wherein said G protein is a promiscuous G protein.

228. (Previously presented) The method of claim 226, wherein said G protein is $G_{\alpha 15}$, $G_{\alpha 16}$ or gustducin.

229. (Previously presented) The method of claim 194, wherein said T1R2 and T1R3 polypeptides are expressed on the surface of said cell.

230. (Previously presented) The method of claim 194, wherein either of said T1R2 and T1R3 nucleic acid sequences are contained in a nucleic acid construct that comprises a nucleic acid sequence that encodes a detectable label.

231. (Previously presented) The method of claims 194, wherein said cell stably expresses said T1R2 and T1R3 nucleic acid sequences.

232. (Previously presented) The method of claim 194, wherein said cell transiently expresses said T1R2 and T1R3 nucleic acid sequences.

233. (Previously presented) The method of claim 194, wherein said cell stably or transiently expresses a T1R2 sequence comprising the amino acid sequence of SEQ ID NO: 6 and a T1R3 sequence comprising the amino acid sequence of SEQ. ID. NO: 4 or SEQ ID NO: 7.

234. (Previously presented) The method of claim 232 wherein said cell is further expresses $G_{\alpha 15}$, $G_{\alpha 16}$ or gustducin.

235. (Previously presented) The method of claim 233 wherein said cell is a HEK-293 cell.

236. (Previously presented) A method of producing a heteromeric taste receptor that responds to sweet taste stimuli comprising:

expressing at least one T1R2 nucleic acid sequence and at least one T1R3 nucleic acid sequence in a recombinant host cell under conditions which result in a heteromeric taste receptor comprising at least one T1R2 and T1R3 polypeptide that responds to sweet taste stimuli, wherein said T1R2 polypeptide possesses at least 90% sequence identity to the human, mouse, or rat T1R2 of Figure 1; and wherein said T1R3 polypeptide possesses at least 90% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

237. (Currently amended) The method ~~cell~~ of claim 236 wherein said T1R2 and T1R3 polypeptide are derived from different species.

238. (Previously presented) The method of claim 236 wherein said T1R2 and T1R3 polypeptide are of the same species.

239. (Currently amended) The method ~~cell~~ of claim 236 wherein T1R2 polypeptide is the human, mouse, or rat T1R2 of Figure 1.

240. (Currently amended) The method ~~cell~~ of claim 236 wherein said T1R2 polypeptide has at least 95% sequence identity to the human, mouse, or rat T1R2 of Figure 1.

241. (Currently amended) The method ~~cell~~ of claim 236 wherein said T1R2 polypeptide has at least 96% sequence identity to the human, mouse, or rat T1R2 of Figure 1.

242. (Currently amended) The method ~~cell~~ of claim 236 wherein said T1R2 polypeptide has at least 97% sequence identity to the human, mouse, or rat T1R2 of Figure 1.

243. (Currently amended) The method ~~cell~~ of claim 236 wherein said T1R2 polypeptide has at least 98% sequence identity to the human, mouse, or rat T1R2 of Figure 1.

244. (Currently amended) The method ~~cell~~ of claim 236 wherein said T1R2 polypeptide has at least 99% sequence identity to the human, mouse, or rat T1R2 of Figure 1.

245. (Currently amended) The method ~~cell~~ of claim 236 wherein T1R3 polypeptide is the human, mouse, or rat T1R3 of Figure 1.

246. (Currently amended) The method ~~cell~~ of claim 236 wherein said T1R3 polypeptide has at least 95% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

247. (Currently amended) The method ~~cell~~ of claim 236 wherein said T1R3 polypeptide has at least 96% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

248. (Currently amended) The method ~~cell~~ of claim 236 wherein said T1R3 polypeptide has at least 97% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

249. (Currently amended) The method ~~cell~~ of claim 236 wherein said T1R3 polypeptide has at least 98% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

250. (Currently amended) The method ~~cell~~ of claim 236 wherein said T1R3 polypeptide has at least 99% sequence identity to the human, mouse, or rat T1R3 of Figure 1.

251. (Previously presented) The method of claim 236, wherein said T1R2 and said T1R3 nucleic acid sequences are each operably linked to a constitutive promoter.

252. (Currently amended) The method of claim 236, wherein[[,]] said T1R2 and said T1R3 nucleic acid sequences are each operably linked to an inducible promoter.

253. (Previously presented) The method of claim 236, wherein said T1R2 and T1R3 nucleic acid sequences are expressed in a prokaryotic cell.

254. (Previously presented) The method of claim 236, wherein said T1R2 and T1R3 nucleic acid sequences are expressed in a eukaryotic cell.

255. (Previously presented) The method of claim 254, wherein said cell is a mammalian, yeast, insect or amphibian cell.

256. (Previously presented) The method of claim 253, wherein said cell is a HEK-293 cell, COS cell, CHO cell, or Xenopus ooctye.

257. (Previously presented) The method of claim 256, wherein the cell is a HEK-293 cell.

258. (Previously presented) The method of claim 236, wherein said cell expresses a G protein.

259. (Previously presented) The method of claim 258, wherein said G protein is a promiscuous G protein.

260. (Previously presented) The method of claim 258, wherein said G protein is $G_{\alpha 15}$, $G_{\alpha 16}$ or gustducin.

261. (Previously presented) The method of claim 236, wherein said T1R2 and T1R3 polypeptides are expressed on the surface of said cell.

262. (Previously presented) The method of claim 236, wherein either of said T1R2 and T1R3 nucleic acid sequences are contained in a nucleic acid construct that comprises a nucleic acid sequence that encodes a detectable label.

263. (Previously presented) The method of claims 236, wherein said cell stably expresses said T1R2 and T1R3 nucleic acid sequences.

264. (Previously presented) The method of claim 236, wherein said cell transiently expresses said T1R2 and T1R3 nucleic acid sequences.